APPENDIX 14-14

BLIND CREEK FLOW CALCULATIONS

BLIND CREEK FLOW CALCULATIONS

Watershed Characteristics

Area = 1148 acres (1.79 mi^2) - see watershed area map (Figure 14-11 of this appendix)
Average elevation = 8998 feet - see grid point map (Figure 14-12 of this appendix). Average elevation determined from 211 points on 500 foot centers across basin.

Return-Period/Peak-Flow Estimates

With an average elevation greater than 8000 feet, Blind Canyon lies in the High Plateaus Flood region of Thomas and Lindskov (1983). Flood peak flows in this region can be estimated from the equations:

$$Q_{10} = 680\ A^{0.706}\ E^{-1.3}$$

$$Q_{25} = 10{,}000\ A^{0.672}\ E^{-2.33}$$

$$Q_{50} = 64{,}200\ A^{0.651}\ E^{-3.03}$$

$$Q_{100} = 347{,}000\ A^{0.631}\ E^{-3.68}$$

Q_N = peak flow (cfs) with a return period of N years
A = drainage area (mi^2)
E = average basin elevation (thousands of feet)

For the Blind Canyon watershed:

Q_{10} = 59 cfs

Q_{25} = 88 cfs

Q_{50} = 121 cfs

Q_{100} = 154 cfs

Reference: Thomas, B. E., Lindskov, K. L., 1983, Methods for Estimating Peak Discharge and Flood Boundaries of Streams in Utah, U.S. Geological Survey, Water-Resources Investigations Report 83-4129, 77 p.

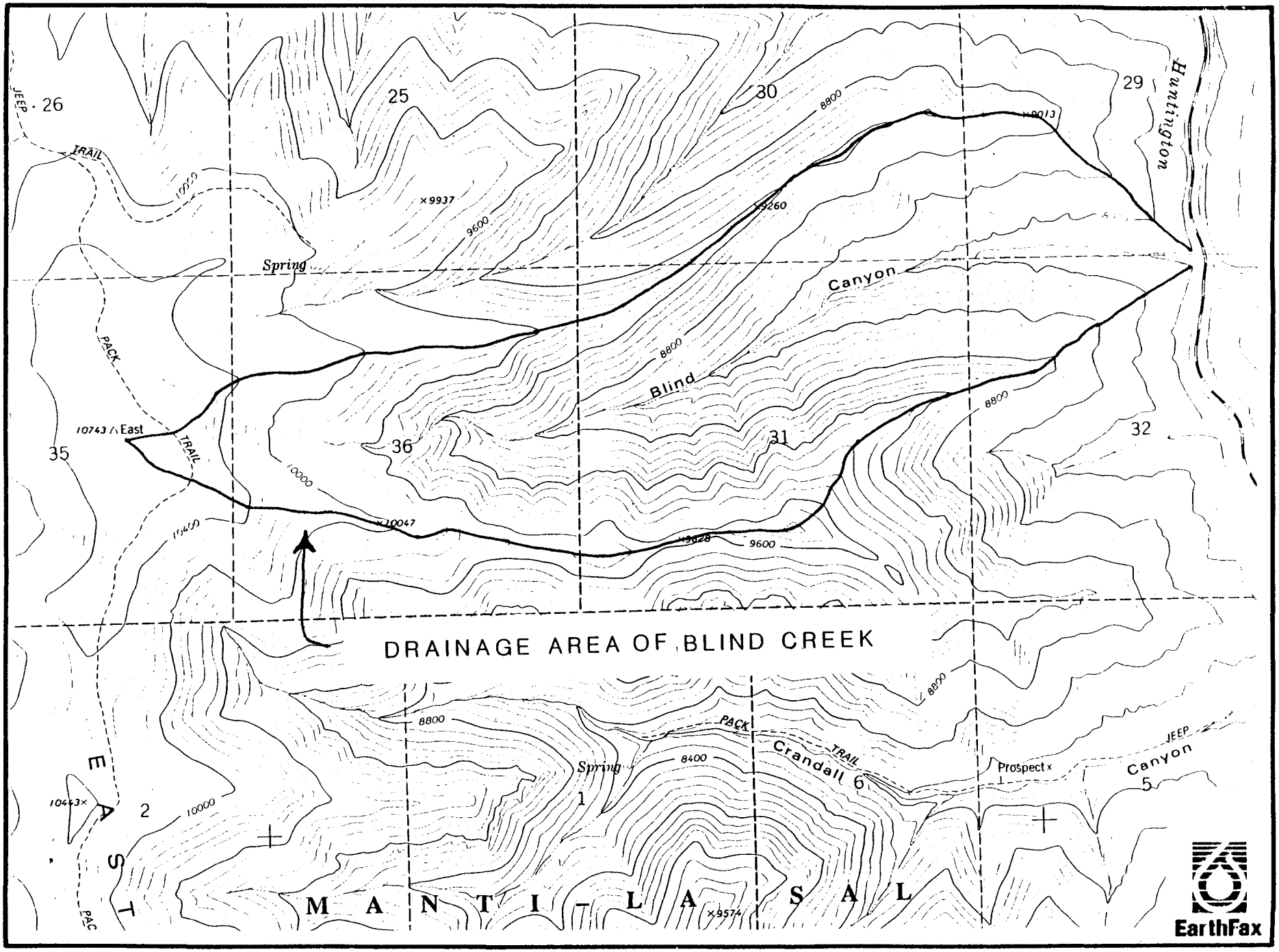
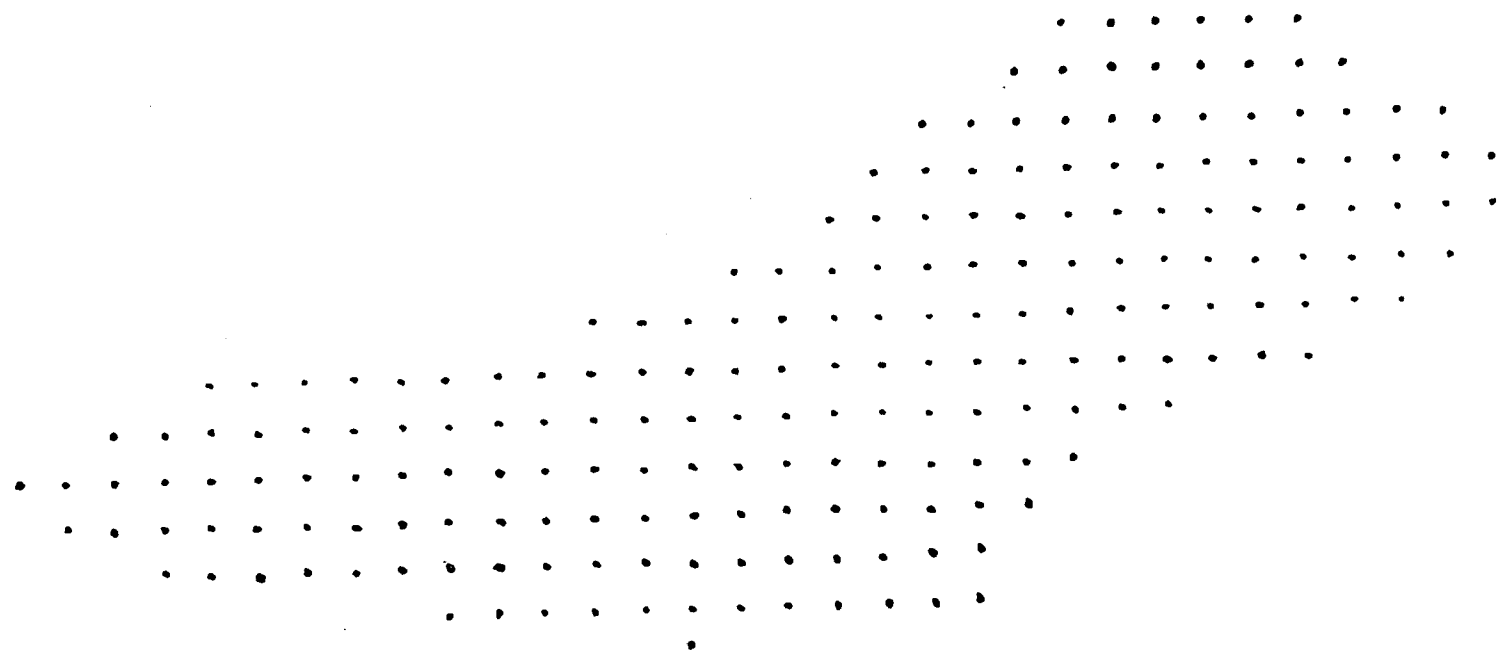


FIGURE 14-11. BLIND CREEK WATERSHED AREA MAP.



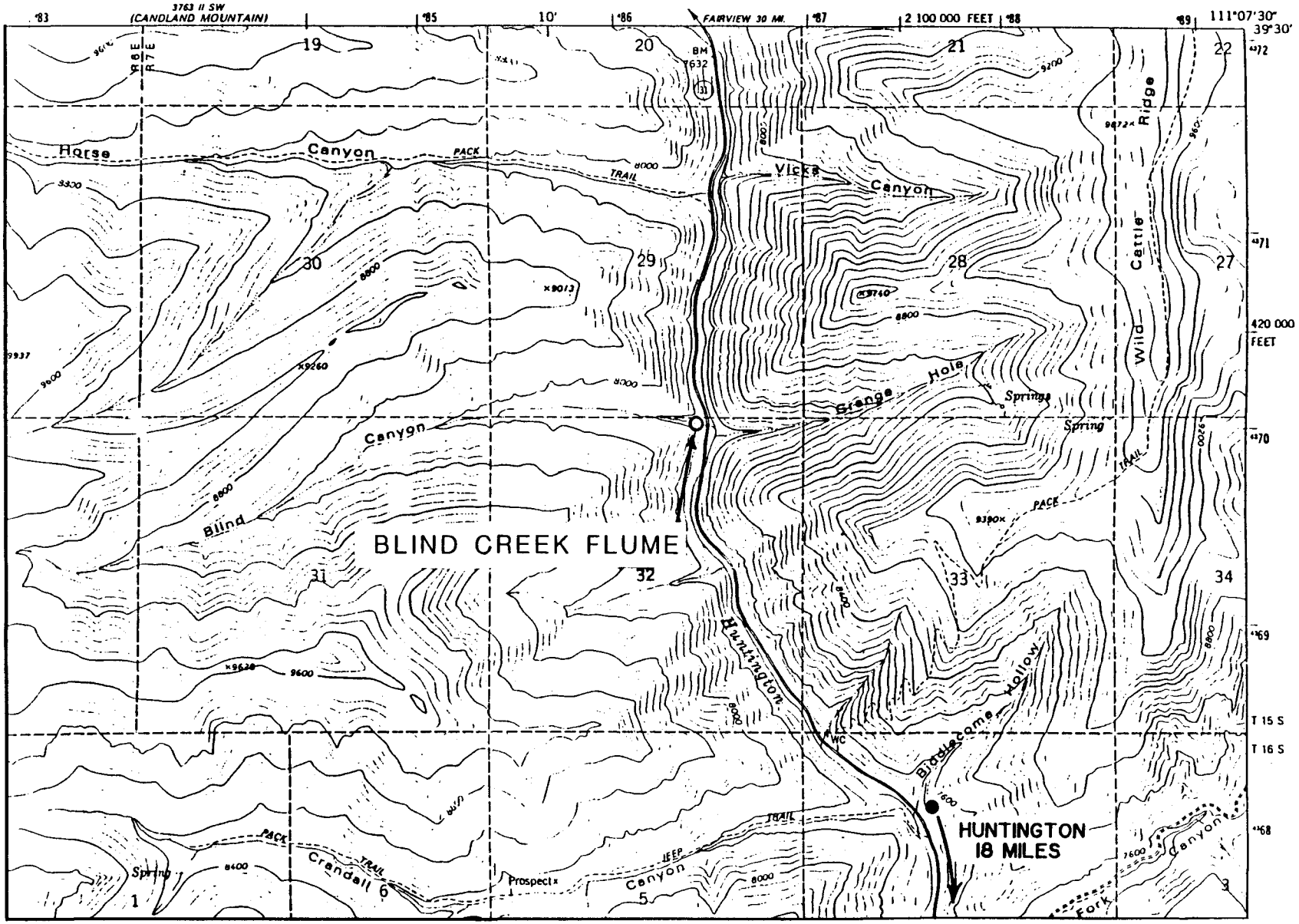
211 POINTS: MEAN ELEVATION 8997 FEET

EarthFax

FIGURE 14-12. BLIND CREEK WATERSHED GRID POINT MAP.

STATE OF UTAH
UTAH GEOLOGICAL AND MINERAL SURVEY

RILDA CANYON QUADRANGLE
UTAH
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 HIAWATHA 15' QUADRANGLE



PARSHALL FLUME ON THE BLIND CANYON STREAM 125Ft. WEST OF RT. 31

T15S-R7E-Sec-32.

FIGURE 14-13. LOCATION OF BLIND CREEK FLUME